

CHEMICALWEEDCONTROL

The inaccurate use of herbicides often results in ineffective weed control and crop damage. Most problems can be prevented by strictly following label prescriptions. You are compelled by law to do so, as published in the Government Gazette.

Herbicides are “wonder chemicals” as it is used in nature in complex interactions with soil, extreme environmental and climatic conditions and/or in combination with other agro-chemicals. What’s more - herbicides are plant killers, supposed to control unwanted plants between crop plants.

To check the efficacy of herbicides in practice, leave an untreated control in fields. Such a control is an area of at least 3 - 5 metres, where no herbicides are applied. This untreated area can then be compared with the areas where the herbicides are applied.

In finalising your weed control strategy please take note of the following:

1. Regular field scouting is important to identify problematic weed species.
2. Confirm herbicides registered on both the weeds and the crop.
3. Calibrate herbicide applicators accurately.

4. Take note of label instructions with regard to nozzles, timely herbicide application, drift, usage restrictions, safety warnings, compatibility with other agro-chemicals, directions for use etc.

The efficacy of a pre-emergence herbicide, for example requires a fine and even seedbed. Pre-emergence herbicides must be washed into the soil (rain or irrigation) before the herbicide is activated. Post-emergence herbicides will not be effective if the herbicides are applied when the weeds are under stress (for example drought, extreme high temperatures etc.) as the herbicide won't be absorbed effectively by the weed. Beware of drift during the application of post-emergence herbicides. Adjuvants to enhance penetration, adsorption and spread of herbicides have to be added to most post-emergence herbicides. The pH of tank-water has to be checked and where necessary a buffer and / or ammonium sulphate have to be added to enhance efficacy of post emergence herbicides. Rain or irrigation within six to eight hours after application of post-emergence herbicides may wash off the herbicide, resulting in less effective weed control. Take note of instructions with regard to herbicide application on specific growth stages of the weed. Producers often expect herbicides to provide season long effective

weed control, thus up to six or seven months. Season long weed control is unrealistic as environmental conditions are seldom optimal. For effective weed control during the whole season a minimum of two herbicide applications are recommended. Where crop rotation is practiced, take note of the label instructions with regard to waiting periods for follow up crops.

The control of grass weeds in maize (a grass itself) is one of the producer's largest challenges. A disadvantage is the season long germination of grasses. Early season grasses can be controlled by pre-emergence graminicides (grass herbicides). Due to competition, grain contamination and grass seed present in the soil seed bank, late germinating grasses may still cause problems in the current and subsequent seasons. Annual grass weeds may be controlled by mechanical weeding or by the split application of graminicides. Post-emergence graminicides have also been registered on maize and is usually used in a spray program with pre-emergence herbicides at or just after planting followed by post-emergence herbicides when grasses are at the 4 to 6 leave stage. The larger the grass tufts the less efficient the post-emergence herbicides will be. The efficacy of a herbicide depends on accurate, timely application of herbicide(s), but also on a most effective weed control programme. Each herbicide has a label in which a table of grass and / or broad leaves weeds are listed that will

be effectively controlled by the active ingredient (or mixtures thereof). Grass weeds that can be difficult to control will be accentuated on the label and usually dosage rates are revised to ensure effective control. Positive identification of weeds is therefore the basis of an effective chemical control spray program.

Grasses that may be difficult to control:

Cyperus esculentus (Yellow nutsedge/ Geeluintjie)

Cyperus rotundus (Purple nutsedge/ Rooiuintjie)

Digitaria nuda (Naked crabgrass)

Eleusine coracana (Goose grass/ Jongosgras)

Sorghum halepense (Johnson grass/ Johnsongras)

Urochloa panicoides (Herringbone grass/ Beesgras)

Cynodon dactylon (Common couch/ Kweekgras)

Commelina benghalensis (Wandering Jew/Wandelende Jood)

(See photo's on page 127)



Cyperus esculentus (Yellow nutsedge/Geel-uintjie)



Digitaria nuda (Naked crabgrass)



Cynodon dactylon (Common couch/Kweekgras)



Sorghum halepense (Johnson grass/Johnsongras)



Cyperus rotundus (Purple nutsedge/Rooi-uintjie)



Eleusine coracana (Goose grass/Jongosgras)



Urochloa panicoides (Herringbone grass/Beesgras)



Commelina benghalensis (Wandering Jew/Wandelende Jood)